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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,775	08/29/2003	Don Masingale	38190/268368	1830

826 7590 10/05/2005

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT PAPER NUMBER

1725

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/657,775

Applicant(s)

MASINGALE, DON

Examiner

Lynne Edmondson

Art Unit

1725

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 47-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 9, 12, 14, 16, 17, 21, 24-35, 37-44 and 46 is/are rejected.
- 7) ☒ Claim(s) 4-7, 10, 11, 13, 15, 18-20, 22, 23, 36 and 45 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 88/29, 3/1, 4/18.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 47-65 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/12/05.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 24-27, 30-32, 35, 37, 38, 41-44 and 46 rejected under 35 U.S.C. 102(b) as being anticipated by Weihs et al. (WO 01/83182 A1, IDS).

Weihs teaches a method of forming a weld joint comprising disposing a sealant on at least one member such that it fills the interface, initiating an exothermic reaction in the sealant such that the sealant seals the interface between the faying surfaces and joining the members to form a sealed joint. A connector (lead) is disposed through the interface (figures 1, 8, page 22 lines 4-8 and page 25 lines 1-7). The sealant comprises

a layered foil substrate containing Al or Ni (page 5 line 17 – page 6 line 14 and page 18 lines 1-6). The sealant is heated to an initiation temperature (page 6 lines 15-25). As shown in figure 8, initiation is prior to joining. A braze material comprising Ni is used (page 11 lines 15-20 and page 13 lines 6-11). The reaction temperature is at least 1200 F (page 7 lines 4-10). The sealant has a thickness of about 0.0004 to over 0.020 inches (page 9 lines 19-22). Parts are urged together during bonding (figure 8m page 11 line 21 – page 12 line 22 and example 6).

4. Claims 24, 26, 29, 33, 34, 37, 39-42 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuwabara (USPN 5967402).

Kuwabara teaches a method of forming a weld joint comprising disposing a sealant on at least one Al member (claims 2 and 3) such that it fills the interface, initiating an exothermic reaction in the sealant such that the sealant seals the interface between the faying surfaces and joining the members to form a sealed joint (abstract, figure 3 and col 5 lines 54-67). The sealant comprises a fluid and plasticizer (binder) (col 3 lines 1-25). The sealant is heated to an initiation temperature (col 5 lines 6-20). A braze material comprising Ni is used (col 6 lines 59-67). Parts are urged together during bonding (col 3 lines 55-65).

5. Claims 1-3, 6, 12, 14, 16, 17, 24-29, 37, 39 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Shuster et al. (USPN 6308882 B1, IDS).

Shuster teaches a method of forming a weld joint comprising disposing a sealant on at least one member such that it fills the interface, initiating an exothermic reaction in the sealant such that the sealant seals the interface between the faying surfaces and friction joining the members to form a sealed joint (col 1 lines 40-65 and col 2 line 25 – col 3 line 12). The sealant comprises Ni (col 1 lines 47-53). The sealant is heated to an initiation temperature by the friction welding step (col 1 lines 58-63). Members comprise steel (col 2 lines 25-30). The welding step further comprises arc or laser welding (col 1 lines 63-65).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8, 9, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuster et al. (USPN 6308882 B1, IDS) in view of Molerus et al. (USPN 5855965).

Shuster teaches a method of forming a weld joint comprising spraying a sealant on at least one member such that it fills the interface, initiating an exothermic reaction in the sealant such that the sealant seals the interface between the faying surfaces and joining the members to form a sealed joint (col 1 lines 40-65 and col 2 line 25 – col 3 line 12). The sealant comprises a Ni (col 1 lines 47-53). The sealant is heated to an

initiation temperature by the friction welding step (col 1 lines 58-63). Members comprise steel (col 2 lines 25-30). The welding step comprises arc or laser welding (col 1 lines 63-65). However the sealant is not further disclosed, particularly as a fluid including a plasticizer.

Molerus teaches spraying powder coatings wherein the powder is mixed with a fluid and binder (col 4 lines 31-67 and col 8 line 57 – col 9 line 18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a fluid coating with a plasticizer (mixture of fluid, binder and powder) as is conventional in the art to facilitate spraying uniform, thin coatings.

8. Claims 8, 21, 33 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuster et al. (USPN 6308882 B1, IDS) in view of Clayton et al. (US 2004/0265503 A1).

Shuster teaches a method of forming a weld joint comprising spraying a sealant on at least one member such that it fills the interface, initiating an exothermic reaction in the sealant such that the sealant seals the interface between the faying surfaces and joining the members to form a sealed joint (col 1 lines 40-65 and col 2 line 25 – col 3 line 12). The sealant comprises a Ni (col 1 lines 47-53). The sealant is heated to an initiation temperature by the friction welding step (col 1 lines 58-63). Members comprise steel (col 2 lines 25-30). The welding step comprises arc or laser welding (col 1 lines 63-65). However the sealant is not further disclosed. Neither is coating thickness taught.

Clayton teaches a fluid (molten) coating (paragraphs 10-12) applied to a substrate by spraying prior to welding wherein the coating has a thickness of about 0.004 inch (paragraph 30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a fluid as is conventional in the art to facilitate spraying uniform, thin coatings and to form thin coatings (0.0004 to 0.020 inch) to expedite the exothermic reaction and prevent cracking.

#### ***Allowable Subject Matter***

9. Claims 4-7, 10, 11, 13, 15, 18-20, 22, 23, 36 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Knopp et al.(USPN 3899306, joining step, exothermic coating), Hardwick (USPN 5242098, joining step, exothermic coating), Cowan et al. (USPN 3233312, joining step, exothermic coating), and Weihs et al.(USPN 6534194 B2).

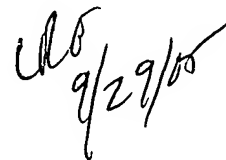
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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lynne Edmondson  
Primary Examiner  
Art Unit 1725

Handwritten signature of Lynne Edmondson, dated 9/29/05.

LRE